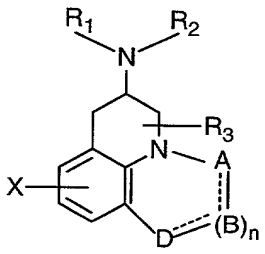
CLAIMS

WHAT IS CLAIMED IS:

1. A method of treating sexual disturbances in a human who is in need of such treatment which comprises administering a sexually therapeutically effective amount of a compound of the formula (A)



where

R_1, R_2 and R_3 are the same or different and are:

-H,

C_1-C_6 alkyl,

C_3-C_5 alkenyl,

C_3-C_5 alkynyl,

C_3-C_5 cycloalkyl,

C_4-C_{10} cycloalkyl,

phenyl substituted C_1-C_6 alkyl,

$-NR_1R_2$ where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

-H,

C_1-C_6 alkyl,

-F, -Cl, -Br, -I,

-OH,

C_1-C_6 alkoxy,

cyano,

carboxamide,

carboxyl,

(C_1-C_6 alkoxy)carbonyl,

A is:

CH,

CH_2,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

$CHCH_3$,

C=O,

C=S,

$C\text{-}SCH_3$,

C=NH,

$C\text{-}NH_2$,

$C\text{-}NHCH_3$,

$C\text{-}NHCOOCH_3$,

C-NHCN,

SO_2,

N;

B is:

CH_2,

CH,

CH-(halogen) where halogen is as defined above,

C=O,

N,

NH,

$N\text{-}CH_3$,

D is:

CH,

CH_2,

CH-(halogen) where halogen is as defined above,

C=O,

O,

N,

NH,

$N\text{-}CH_3$;

and n is 0 or 1, and where ⋯ is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2;

then D is CH_2, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH_3;

(2) that when n is 0, and

A is CH, C-SCH_3, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2; and

B is CH_2, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH_3; then

D is CH_2, C=O, O, NH, N-CH_3;

(4) that when n is 1, and

A is CH, C-SCH_3, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, C-NHCN, N; and

B is CH, N; then

D is CH_2, C=O, O, NH, N-CH_3;

(5) that when n is 1, and

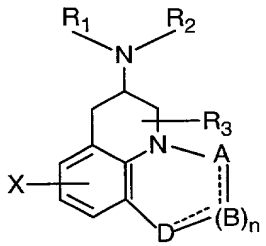
A is CH_2, $CHCH_3$, C=O, C=S, C=NH, SO_2, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

2. A method of treating sexual disturbances according to claim 1 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

3. A method of inducing mating a non-human mammal which comprises administering a sexually mating amount of a compound of the formula (A)



where

R_1, R_2 and R_3 are the same or different and are:

-H,

C_1-C_6 alkyl,

C_3-C_5 alkenyl,

C_3-C_5 alkynyl,

C_3-C_5 cycloalkyl,

C_4-C_{10} cycloalkyl,

phenyl substituted C_1-C_6 alkyl,

$-NR_1R_2$ where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

-H,

C_1-C_6 alkyl,

-F, -Cl, -Br, -I,

-OH,

C_1-C_6 alkoxy,

cyano,

carboxamide,

carboxyl,

(C_1-C_6 alkoxy)carbonyl,

A is:

CH,

CH_2,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

$CHCH_3$,

C=O,

C=S,

$C\text{-}SCH_3$,

C=NH,

$C\text{-}NH_2$,

$C\text{-}NHCH_3$,

$C\text{-}NHCOOCH_3$,

C-NHCN,

SO_2,

N;

B is:

CH_2,

CH,

CH-(halogen) where halogen is as defined above,

C=O,

N,

NH,

$N\text{-}CH_3$,

D is:

CH,

CH_2,

CH-(halogen) where halogen is as defined above,

C=O,

O,

N,

NH,

$N\text{-}CH_3$;

and n is 0 or 1, and where ⋯ is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2;

then D is CH_2, CH-(halogen) where halogen is as defined above, C=O, O, NH, $N\text{-}CH_3$;

(2) that when n is 0, and

A is CH, $C\text{-}SCH_3$, $C\text{-}NH_2$, $C\text{-}NHCH_3$, $C\text{-}NHCOOCH_3$, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2; and

B is CH_2, CH-(halogen) where halogen is as defined above, C=O, NH, $N\text{-}CH_3$; then

D is CH_2, C=O, O, NH, $N\text{-}CH_3$;

(4) that when n is 1, and

A is CH, $C\text{-}SCH_3$, $C\text{-}NH_2$, $C\text{-}NHCH_3$, $C\text{-}NHCOOCH_3$, C-NHCN, N; and

B is CH, N; then

D is CH_2, C=O, O, NH, N-CH_3;

(5) that when n is 1, and

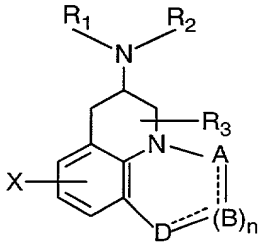
A is CH_2, $CHCH_3$, C=O, C=S, C=NH, SO_2, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof.

4. A method of inducing mating according to claim 3 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

5. A method of treating a sexual deficiency state in a human who has epilepsy, craniopharyngioma, hypogonadism or who has had a hysterectomyoophorectomy, hysterectomy or oophorectomy which comprises administering a sexually therapeutically effective amount of a compound of the formula (A)



where

R_1, R_2 and R_3 are the same or different and are:

-H,

C_1-C_6 alkyl,

C_3-C_5 alkenyl,

C_3-C_5 alkynyl,

C_3-C_5 cycloalkyl,

C_4-C_{10} cycloalkyl,

phenyl substituted C_1-C_6 alkyl,

-NR_1R_2 where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

-H,

C_1-C_6 alkyl,

-F, -Cl, -Br, -I,

-OH,

C_1-C_6 alkoxy,
cyano,
carboxamide,
carboxyl,
(C_1-C_6 alkoxy)carbonyl,

A is:

CH,
CH_2,
CH-(halogen) where halogen is -F, -Cl, -Br, -I,
$CHCH_3$,
C=O,
C=S,
$C\text{-}SCH_3$,
C=NH,
$C\text{-}NH_2$,
$C\text{-}NHCH_3$,
$C\text{-}NHCOOCH_3$,
C-NHCN,
SO_2,
N;

B is:

CH_2,
CH,
CH-(halogen) where halogen is as defined above,
C=O,
N,
NH,
$N\text{-}CH_3$,

D is:

CH,
CH_2,
CH-(halogen) where halogen is as defined above,
C=O,
O,

N,

NH,

N-CH_3;

and n is 0 or 1, and where ⋯ is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2;

then D is CH_2, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH_3;

(2) that when n is 0, and

A is CH, C-SCH_3, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2; and

B is CH_2, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH_3; then

D is CH_2, C=O, O, NH, N-CH_3;

(4) that when n is 1, and

A is CH, C-SCH_3, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, C-NHCN, N; and

B is CH, N; then

D is CH_2, C=O, O, NH, N-CH_3;

(5) that when n is 1, and

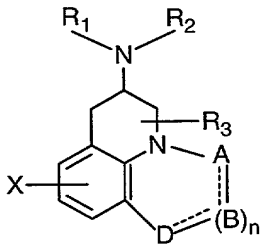
A is CH_2, $CHCH_3$, C=O, C=S, C=NH, SO_2, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

6. A method of treating a sexual deficiency state according to claim 5 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

7. A method of increasing sexual desire, interest or performance in a human who is desirous thereof which comprises administering a sexually useful effective amount of a compound of the formula (A)



where

R_1, R_2 and R_3 are the same or different and are:

-H,

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C_3-C_5 alkenyl,

C_3-C_5 alkynyl,

C_3-C_5 cycloalkyl,

C_4-C_{10} cycloalkyl,

phenyl substituted C_1-C_6 alkyl,

$-NR_1R_2$ where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

-H,

C_1-C_6 alkyl,

-F, -Cl, -Br, -I,

-OH,

C_1-C_6 alkoxy,

cyano,

carboxamide,

carboxyl,

(C_1-C_6 alkoxy)carbonyl,

A is:

CH,

CH_2,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

$CHCH_3$,

C=O,

C=S,

C-SCH_3,

C=NH,

C-NH_2,

C-$NHCH_3$,

C-$NHCOOCH_3$,

C-NHCN,

SO_2,

N;

B is:

CH_2,

CH,

CH-(halogen) where halogen is as defined above,

C=O,

N,

NH,

N-CH_3,

D is:

CH,

CH_2,

CH-(halogen) where halogen is as defined above,

C=O,

O,

N,

NH,

N-CH_3;

and n is 0 or 1, and where ⎓ is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2;

then D is CH_2, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH_3;

(2) that when n is 0, and

A is CH, C-SCH_3, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

A is CH_2, CH-(halogen) where halogen is as defined above, $CHCH_3$, C=O, C=S, C=NH, SO_2; and

B is CH_2, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH_3; then

D is CH_2, C=O, O, NH, N-CH_3;

(4) that when n is 1, and

A is CH, C-SCH_3, C-NH_2, C-$NHCH_3$, C-$NHCOOCH_3$, C-NHCN, N; and

B is CH, N; then

D is CH_2, C=O, O, NH, N-CH_3;

(5) that when n is 1, and

A is CH_2, $CHCH_3$, C=O, C=S, C=NH, SO_2, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

8. A method of increasing sexual desire, interest or performance in a human who is desirous thereof according to claim 7 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

9. (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione and pharmaceutically acceptable salts thereof.

10. A compound according to claim 9 which is (5R)-5-(Methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione malate.